

PATENT SPECIFICATION

DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

Improvements in and relating to Rotary Offset Printing Machines

We, AGFA-GEVAERT AKTIENGESellschaft, a body corporate recognised under German Law, of Leverkusen, Germany, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention is concerned with improvements in and relating to rotary offset printing machines, more especially office duplicating machines.

The invention is primarily concerned with a cleaning or damping device for such machines.

Known devices of this type are fixed to the machine and extend over the full width of the printing machine cylinder, whereby they considerably affect the accessibility of the cylinder, particularly if in addition to a cleaning mechanism for the rubber blanket a damping mechanism for the stencils is provided. Since with these devices both the liquid-charging and also the changing of a wiper band must take place in the position in which it is used, the construction is relatively expensive. In smaller machines, e.g. office duplicating machines, the fitting of cleaning and damping mechanisms is therefore often omitted. The cleaning of the rubber blanket after changing the printing forme, and the pre-damping of the new printing forme are effected in a time-consuming manner by hand with a cloth or by means of a pad, although it is precisely in these machines, on which very small editions are generally printed, that these operations represent such a considerable part of the total printing time.

The present invention provides in the first place a cleaning or damping device for cylinders of rotary offset printing machines, said device including a housing of width smaller

than the axial length of a cylinder to be cleaned or damped therewith and also including mounting means for a wiper band and means for attaching the device to and detaching it from a correspondingly constructed rotary offset printing machine in a manner such that it can be moved axially of the cylinder while the wiper band is in contact with the cylinder.

The device is preferably of a size such that the housing can be grasped by the hand across its width for movement to and fro across the cylinder.

With this arrangement, the printing machine cylinders are freely accessible during the printing process. The laterally displaceable wiping device can be made so narrow that it can be held in the hand like a hand-brush.

The device advantageously includes a pad of resilient material arranged to act as backing for the area of wiper material to be in contact with the cylinder. There may also be included between an area of the housing corresponding to the contact area of the wiper band with the cylinder and a said mounting means projections for preventing the wiper material from lateral movement with reference to the housing.

For use with a wiper band in web form, the device may include a mounting for a roll of clean wiper material and a spool for taking up soiled wiper material, non-return winding means being provided for the spool. Friction braking means may be provided for the clean wiper material. The non-return winding means may include a knob with a stub spindle axially engageable with the spool and, when engaged, co-operating with spring-loaded ratchet means on the housing for rotation limited to the winding direction. When the wiper band has been advanced section-by-

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section through the device by means of the rotary knob and is completely spent, after disengaging the knob, the band can be pulled out of the device and replaced by a new one. The braking means ensures at all times adequate tensioning of the wiper band, which can consist in a known manner of an absorbent fabric or paper web.

The invention further provides, in combination, a device as set forth above and a rotary offset printing machine, the construction being such that by the said attachment means between the device and the machine, the device can pivot on support means of the machine in a radial direction with respect to the said cylinder, the device being provided with stop means for co-operation with stop means on the machine to limit the pivoting movement in a direction towards the surface of the cylinder. These stop means prevent the cleaning or damping device falling into the recesses usually provided on the printing cylinders to accommodate the tensioning devices.

The cleaning or damping process can consequently be carried out in a particularly effective and time-saving manner on the revolving cylinder, as with devices which are built into the machine.

In one advantageous construction the said support means and the stop means on the machine are both bars parallel to the axis of the cylinder, on a first of which the device can move axially and pivot by attachment means in the form of a pair of oppositely disposed hook-shaped recesses in the housing, and against the second of which the device can abut, whenever in a cleaning or damping position, by a pair of oppositely disposed lugs on the housing. The said bars of the machine may be located symmetrically between the forme or stencil cylinder and the offset cylinder, which are of the same diameter, so that a cleaning or damping device can be applied to each of the said two cylinders in turn.

The invention still further provides, in combination, a cleaning or damping device as set forth above and a device for charging a wiper band thereon with liquid, said charging device being adapted to have the cleaning or damping device placed upon it with the wiper band in contact with a liquid-charging means. The liquid-charging device may include a container, a container cover with well, and as liquid-charging means a resilient, absorbent element in the well. Preferably the cleaning or damping device and the liquid-charging device are of such complementary constructions that when the cleaning or damping device is in place on the liquid-charging device a substantial seal is provided between the liquid and the ambient air.

The invention is illustrated by way of ex-

ample in the accompanying drawings, in which:

Fig. 1 is a perspective view of a cleaning or damping device in place on a rotary offset office duplicating machine.

Fig. 2 is an end elevation corresponding to Fig. 1,

Fig. 3 is a section on an enlarged scale through a liquid-charging device with the cleaning or damping device placed upon it,

Fig. 4 is a section on the line IV—IV of Fig. 3, and

Fig. 5 is a still further enlarged section through the winding spool for the wiper band.

Referring to the drawings, as shown in Figs. 1 and 2, on the housing 1 of a rotary offset office duplicating machine, symmetrically arranged with respect to a stencil cylinder 2 and an offset cylinder 3 of the same diameter, are fitted guide bars 4 and 5. With the bar 5 engage hook-shaped recesses 6b of the housing 6 of a cleaning or damping device according to the invention. Lugs 6c of the housing which meet the bar 4 form stop means preventing the cleaning device from falling into a recess 3b in the offset cylinder 3.

As can be seen from Fig. 1, the housing 6 of the cleaning device is made narrow enough so that it can be held in the operator's hand like a hand-brush. In order to facilitate handling, finger-holds 6a in the form of parallel ribs are provided on the side walls of the housing 6.

In Fig. 2 it is indicated in broken lines that the cleaning device, owing to the fact that the bars 4 and 5 are symmetrically arranged with respect to the cylinders 2 and 3, can also be fitted so that it co-operates with the stencil cylinder 2 instead of the offset cylinder 3. In the former case it serves for cleaning a conventional rubber blanket 3a on the offset cylinder 3. In the latter case, pre-damping or "etching" of a printing stencil 2a on the stencil cylinder can be carried out with the device. In this case also the bar 4 and lugs 6c prevent the device falling into a recess 2b of the stencil cylinder 2 which accommodates conventional tensioning means for the stencil.

As illustrated in Fig. 3, a winding spool 7 for a wiper band 8 is arranged in the housing 6 of the cleaning device. The winding spool 7 is attached to a milled rotary knob 8f, seen in Fig. 2, and carries attachment means for the wiper band in the form of ratchet type teeth 7a provided on the periphery of the spool.

The wiper band consists of absorbent fabric or paper. After removing a cover 9, a supply roll 10 is inserted in the housing 6 and its leading end is attached to the teeth 7a of the winding spool 7. The cover 9 can be anchored in the housing 6 by means of hooks 9a and clamped thereto by pressing a lug

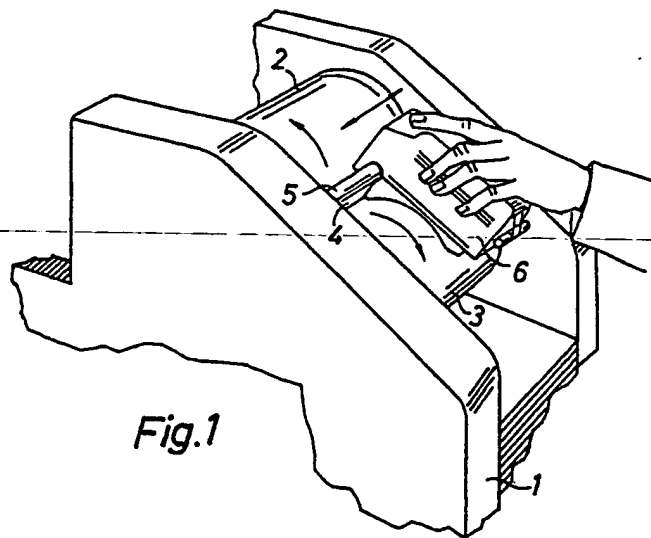


Fig.1

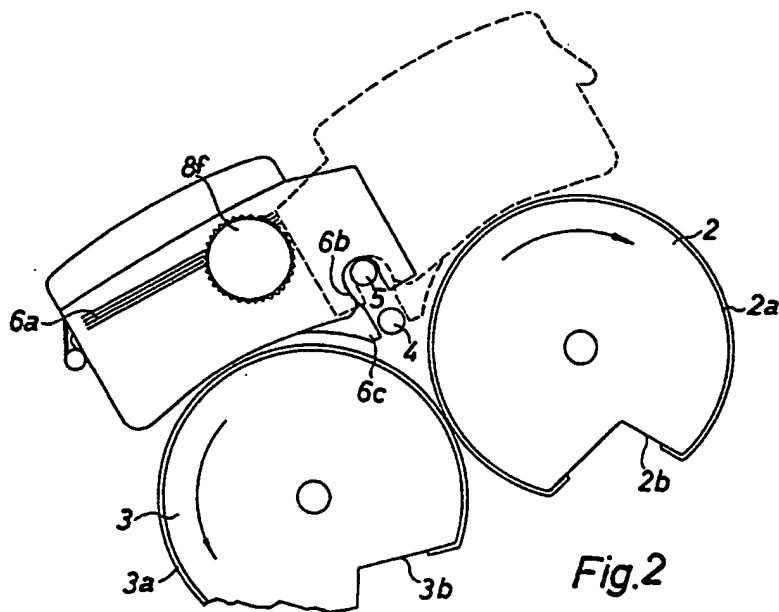


Fig.2

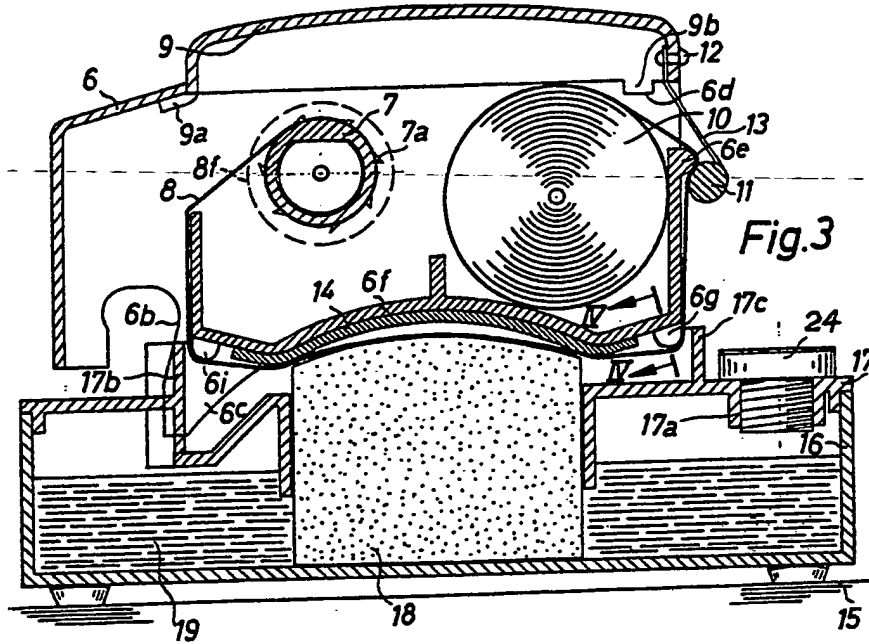


Fig. 3

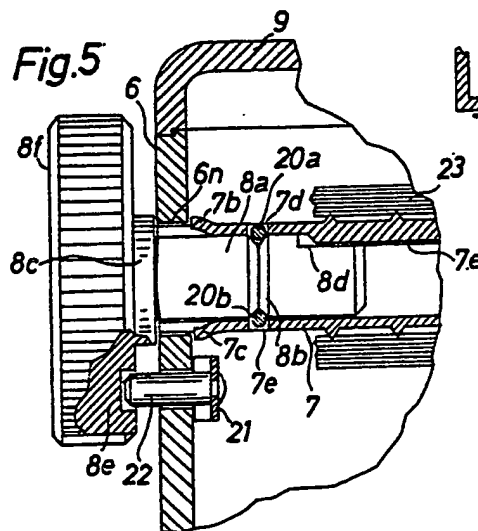


Fig. 5

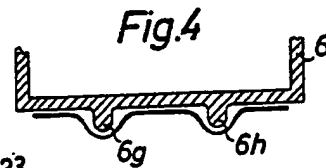


Fig. 4

